Oral comments from George Allen for the 10/21/19 CASAC PM NAAQS review meeting.

I am a former member of CASAC and the disbanded PM review panel, and participated in the Independent PM Review Panel. My comments today do not necessarily represent the views of my employer NESCAUM or those of NESCAUM member states.

I want to thank EPA staff for their efforts on the combined REA/PA documents under difficult circumstances. The ISA has not been finalized, and given the largely critical review from CASAC last April it is unclear how much different a final ISA might be. Reviewing a draft PA without a final ISA is problematic; my comments assume the ISA will be finalized with minimal changes to key conclusions such as PM-mortality causality.

The draft PA presents a clear need to tighten the PM standards, especially the PM2.5 annual NAAQS, which EPA views as the controlling standard. There is a large body of new studies since the last review. The epidemiologic evidence is now vast, particularly in terms of the geographic domain and number of subjects included, and provides an overall consistent scientific basis for finding that the current primary PM2.5 standards are not sufficiently protective of public health. The weight of evidence from epidemiology, animal toxicology, and controlled human exposure studies is credible and more than sufficient for informing recommendations regarding levels below the current standards. The PA states that a range of 11 to 8 ug/m3 is appropriate to consider. Review of the mortality effects presented in the PA shows that 10 should be the upper concentration of a revised annual PM2.5 standard, with levels as low as 8 being supported with sufficient certainty for regulatory purposes.

The Di 2017 Harvard study of chronic effects on the Medicare population shows the risk of premature death per unit of PM2.5 exposure is 3 times higher for African Americans than the general population -- a 21% increase in risk per 10 ug/m3. This is an important environmental justice issue that needs to be explicitly addressed in the final PA.

The draft PA suggests the 24-hour standard be left at 35 ug/m3. With a tighter annual standard in the range of 10 to 8, 35 does not provide sufficient protection against large sub-daily PM peaks from exposures to smoke from wildfires and residential wood combustion. A 24-hour standard in the range of 30 to 25 is more appropriate, with a rolling average instead of a calendar day average providing protection from overnight wood smoke events that are split into two separate days with the current approach.

There are other important issues related to PM health effects besides revisions to the PM2.5 NAAQS. There is an urgent need to move towards a PM-coarse standard instead of the current and inadequate PM10 standard that has been unchanged since 1987! Other particle metrics for near-road exposures, such as ultra-fine particles and black carbon, are robust indicators for traffic-related air pollution, and possibly causal for observed near-road health effects. They need to be measured more routinely, and EPA needs to develop FRMs for them to support these measurements. Welfare (secondary) standards continue to be a bad joke in the context of EPA NAAQS regulations. For PM2.5, this is about visibility. The current annual standard of 15 is useless and absurd. Some form of a sub-daily measurement interval would be appropriate to

protect degradation of visual range outside of Class 1 airsheds that are covered under the 1999 regional haze rule.

The attempt by some Casac members to dismiss the evidence of PM-mortality presented in the ISA on the basis of new and unvetted approaches to causality is specious. Last August, Dr. John Balmes wrote a New England Journal of Medicine editorial on the robust body of evidence from studies on PM mortality. Here is the closing paragraph:

<<In the context of the current review of the NAAQS for PM and the Trump Administration's view of inconvenient scientific evidence as anathema, Anthony Cox, the current chair of CASAC, has characterized the abundant observational epidemiologic evidence from time-series and cohort studies of the PM2.5-mortality association as not proving causality. Rather than relying on the weight-of-the-evidence approach that the EPA has traditionally used to infer causation, Dr. Cox wants to rely on studies that use a theoretical approach called "manipulative causality." This theory restricts epidemiologic evidence that may be considered acceptable to assess causality to results from intervention studies or studies that have been analyzed with the use of causal inference statistical methods. The effort to exclude all observational epidemiologic data that have not been analyzed in this framework not only makes no sense, it would set a dangerous precedent for environmental policy.>> end quote.

By its own admission the present CASAC does not have the expertise to do rigorous reviews of NAAQS documents. No seven-member body regardless of membership has the needed expertise for this purpose. EPA has provided a group of "consultants" chosen without public input to answer questions from CASAC in writing, without the deliberation that has been an important part of the CASAC review process. This attempt by EPA to fulfill CASAC's request for reappointment of the PM panel or a panel with similar expertise is a farce.

For more detail on process and scientific recommendations, please see the written comments submitted for this meeting by the Independent PM Review Panel.
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